NIH ❦ Library

Instructional Services
presents

MathSciNet

http://www.ams.org/mathscinet

MathSciNet is the searchable Web database produced by the American Mathematical Society providing access to *Mathematical Reviews* and *Current Mathematical Publications* from 1940 to the present and covering approximately 1,600 journals MathSciNet is updated daily with *CMP* data and monthly with *MR* reviews.

MathSciNet Basic Search

A Basic Search offers a pull-down menu of fields and one input box. One field may be selected. Boolean operators (and, not, or) and parentheses may be used to combine the search criteria. MathSciNet Basic Search results return a list of headlines matching the entered criteria. From the headlines, full reviews can be selected either individually or, using marked records, in a group.

Select a search field (change field with the pull - down menu)
Enter search terms into the blank text box
Select number of headlines to be displayed per page (default is 20)
When all criteria are entered, press Enter (with cursor in box)
MathSciNet searches are not case-sensitive.
The wildcard character is the asterisk (*) and may be used in all fields except MR Number and Mathematics Subject Classification (Classification).
Important Note: If no wildcard is used, the search will look for exact word matches and for the plural of the words entered.

> Adjacency is assumed within a field.
> Boolean operators (or, and, not) may be entered between criteria.
> Parentheses may be used to group criteria.

Full Search　　　　　　　　　　**MSN-Support**　　　**Help**

Start Search　　Clear Screen

Author ▼ [   ]
and ▼
Title ▼ [   ]
and ▼
Classification ▼ [   ]
and ▼
Anywhere ▼ [   ]

Select one:
○ Current CMP issue through today
○ Current MR issue **2000c**
○ MR Publication Year: From (includes year) [1940 ▼] and Before [2005 ▼]
○ Publication Year [= ▼] [   ]
⦿ Entire Database

Document Type: ○ Books ○ Journals ○ Proceedings ⦿ All

Headlines per page: ○ 5 ○ 10 ⦿ 20 ○ 50 ○ 100 ○ 1000(max)

Start Search　　Clear Screen

Constructing a MathSciNet Full Search

- Select a search field (Field can be changed with the pull-down menu)
- Enter search terms into one or more of the blank boxes on the search screen.
- Select date range (default is entire database)
- Select number of headlines to be displayed per page (default is 20)
- Select document type (default is all types)
- When all criteria are entered, click on a Start Search button. The headlines list for the search will appear. A message will appear if there are no results for the specified search criteria.
- To clear the screen and enter a new search, click on a Clear Screen button. This will change field name boxes back to the default settings and will clear the previous search.

Entering Search Terms

- Enter search terms in the query boxes next to the field name boxes.
- MathSciNet searches are not case-sensitive.
- The wildcard character is the asterisk (*) and may be used in all fields except Publication Year, MR Number, and Mathematics Subject Classification (Classification). If no

wildcard is used, the search will look for exact word matches and for the plural of the words entered.
- Adjacency is assumed within a field.
- Boolean operators (or, and, not) may be entered within a field or set between fields with the pull down menus. The default Boolean operator between fields is AND.

Search Fields

There are four Field Name boxes on the search screen but there are a total of ten fields that can be searched. In addition, the Anywhere field simultaneously searches simultaneously. MathSciNet will search whatever field is displayed in the Field Name box. The Field Name boxes can be changed to one of the fields not on display by holding down the mouse and selecting a field from the pull-down menu. See Help for instructions on valid entries for each field.

List of Available Fields (***** indicates default field)

Field Name	What it Searches
*Author	Author's name only
Author/Related	Author's name plus editors, translators, etc.
*Title	Title of original article
*MSC Primary/Secondary	Primary or secondary Mathematics Subject Classification
MSC Primary	Primary Mathematics Subject Classification
Journal	Journal name
Institution Code	The code assigned to a specific institution
Series	Series name
MR number	Number of item in Mathematical Reviews
Review Text	Any text in the body of the review or abstract
Reviewer	Reviewer's name
Publication year	Publication year of original article
*Anywhere	Entire MathSciNet record including headlines, institution codes, and review text.

Boolean Operators

Boolean operators allowed in MathSciNet are: AND, OR, NOT. The default operator between field boxes is AND. These operators may be entered within a field box between search terms or selected by using pull-down menus between field name boxes.

AND narrows your search and retrieves records containing all search terms (see example below).
OR broadens your search to include any of a number of words on the same concept. This will retrieve records containing any of the search terms.
NOT excludes the terms after the operator from your search and retrieval.

Review Text ▾	game theory
and ▾	
Review Text ▾	operations research

You may use OR to search different fields for the same term. The example below will retrieve citations with the phrase "number theory" in either the title or the review text of the citation.

```
┌─────────────────┬──────────────────────────────────────────┐
│ Title        ▼  │ number theory                            │
├─────────────────┴──────────────────────────────────────────┤
│ or  ▼                                                        │
├─────────────────┬──────────────────────────────────────────┤
│ Review Text  ▼  │ number theory                            │
└─────────────────┴──────────────────────────────────────────┘
```

To search for a phrase that contains a Boolean operator, you must place the phrase within quotation marks, i.e. "not locally symmetric."

Proximity Operators

MathSciNet also allows the use of proximity operators for search criteria construction. This is useful when building searches that contain prepositions like *but, of, a*. Use of these prepositions will result in extended query times. When searching for items that contain these words, consider using the proximity operators ADJ or WITH.

Unless otherwise instructed, the database assumes adjacency.

Search	Instead of
module adj1 differential	module of differential
chow ring adj2 blowup	chow ring of a blowup
"hidden action" with "enzyme"	hidden action of enzymes

Searching for Mathematics (TeX)

MathSciNet search criteria for words and phrases should be stripped of TeX code. In particular, TeX coding should be omitted from names. To search for mathematical symbols omit the initial \ from the TeX code. For example, to search for {\rm P}\sp\infty, enter P sp infty.

Searching Date Ranges

The date range options from the search screen are as follows:

```
○ Current CMP issue through today
○ Current MR issue 2000c
○ MR Publication Year: From (includes year) [1940 ▼] and Before [2005 ▼]
○ Publication Year [= ▼] [      ]
◉ Entire Database
```


Search 5 Year Ranges

Using the **MR publication year**, the database has been divided into 5 year sections beginning with 1940. The MR publication year is the year that a review was published in *Mathematical Reviews*. You can search one 5 year section or a contiguous range.
To search the 5 year ranges:
- click in the button next to **MR Publication Year:**
- select the **From** year on the pull-down menu (the year displayed is included in the search)
- select the **Before** year from the pull-down menu (the year displayed is **not** included in the search).

The year an item is published (publication year) may be different than the year the review for that item is published (MR publication year).

Search Year Equal To, Greater Than, or Less Than

This option searches the **publication year** of the original item. To search the publication year:

- click in the button next to **Publication Year**
- select =, <, or> from the pull-down menu
- enter the year as a two- or four-digit number, e.g. 93 or 1993.

The year an item is published (publication year) may be different than the year the review for that item is published (MR publication year).

Setting Document Type

The MathSciNet database contains information about the publication format of the original document: book, journal article, proceedings article, etc. By default, all types of documents are searched. However, one **Document Type** can be selected, e.g., reviews of books only or journal articles only, to refine a search.

Document Type: ○ Books ◉ Journals ○ Proceedings ○ All

Activating a Search

To perform the constructed search, click the **Start Search** button from the search screen.

Search Results

MathSciNet search results return a list of headlines matching the entered criteria. From the headlines, full reviews can be selected either individually or, using marked records, in a group. Use the pull-down menu to select the desired format and use the **Retrieve All** or **Retrieve Marked** buttons to retrieve the reviews.

MathSciNet search results are, by default, displayed 20 headlines per screen. From the headlines screen, the next (or previous) set of 20 can be displayed. The number of headlines displayed at one time can be selected by the user from the MathSciNet search screen at the "Headlines per page:" option. The options are 5, 10, 20, 40, 100, or 1000 (max) headlines per page.

Full-text Links: The **To Original Article** button, which appears with certain headlines, links to full-text articles at publishers' Web sites. NIH staff can access the full-text of articles from journals for which the NIH Library has licensed access. In MathSciNet, NIH staff can primarily access Elsevier Science journal articles at the ScienceDirect site.

Select format: [Reviews (HTML) ▼] [Retrieve Marked] [Retrieve All] [Unmark All]

☐ [1] **PDF** 1 706 800 Balder, Erik J. On the existence of Cournot-Nash equilibria in continuum games. *J. Math. Econom.* **32** (1999), no. 2, 207--223. 91Axx (91Bxx) [To Original Article]

☐ [2] **PDF** 97e:90128 Hart, Sergiu; Mas-Colell, Andreu Egalitarian solutions of large games. II. The asymptotic approach. *Math. Oper. Res.* **20** (1995), no. 4, 1003--1022. (Reviewer: Jos Potters) 90D12

☐ [3] **PDF** 96m:90151 Balder, Erik J. A unifying approach to existence of Nash equilibria. *Internat. J. Game Theory* **24** (1995), no. 1, 79--94. 90D13

☐ [4] **PDF** 95f:90084 Winter, Eyal; Wooders, Myrna Holtz An axiomatization of the core for finite and continuum games. *Soc. Choice Welf.* **11** (1994), no. 2, 165--175. (Reviewer: Jos Potters) 90D12 [To Journal]

Returning to the MathSciNet Search Screen

Use the browser's functions to return to the MathSciNet Search screen and retain the criteria entered. The Back key will page back a screen at a time. To return to the MathSciNet Search screen with the criteria cleared and default field names set, click on the **Full Search** button at the top of the screen in the MathSciNet header.

Clipboard

The Clipboard feature in MathSciNet allows users to add citations found as a result of a search to the clipboard. Citations can be collected over multiple searches. Items can be added either from a headlines page or a review page.

The clipboard can contain up to 500 citations at one time.

Items in the clipboard will be lost after 2 hours of MathSciNet inactivity.

The clipboard requires the use of Cookies.

Add Items to the Clipboard

From a Headlines page, click on Add citation to clipboard, located below the bibliographic data for each item. From a Review Page Click on Add citation to clipboard, located below the bibliographic data for each item. The Clipboard will help you avoid duplicate citations in the clipboard. If you add an item that already exists in your clipboard, you will be notified and the item will not be added to the clipboard.